

AMENDMENTS TO THE SPECIFICATION:

Please replace paragraph [01] of the originally filed patent application with the following rewritten paragraph:

The present application is related to Patent Application Serial No. 10/619,649(~~Attorney Docket No. ARC9-2003-0015-US1~~), entitled “Automatic Parity Exchange,” now U.S. Patent No. 7,281,177 B2 to Hetzler et al., Patent Application Serial No. 10/619,633(~~Attorney Docket No. ARC9-2003-0016-US1~~), entitled “Multi-path Data Retrieval From Redundant Array,” now U.S. Patent No. 7,379,974 B2 to Hetzler et al., and Patent Application Serial No. 10/619,648(~~Attorney Docket No. ARC9-2003-0040-US1~~), entitled “RAID 3 + 3,” now U.S. Patent No. 7,254,754 B2 to Hetzler et al., each copending, co-assigned and filed concurrently herewith, and each incorporated by reference herein. The present application is also related to co-pending and coassigned Patent Application Serial No. 10/600,593(~~Attorney Docket No. YOR9-2003-0069-US1~~), entitled “Method For Constructing Erasure Correcting Codes Whose Implementation Requires Only Exclusive ORS,” now U.S. Patent No. 7,350,126 B2 to Winograd et al., which is also incorporated by reference herein.

Please replace paragraph [38] of the originally filed patent application with the following rewritten paragraph:

According to the present invention, a dodging operation is a process in which a stripe within an array is selected for donating an element to a recipient stripe, and recipient information is rebuilt onto the donated element, thereby increasing the minimum distance of the array. A dodging operation can be performed on a pair of stripes (i,j) when the distance $d_i \geq d_j + 2$. After the dodging operation, the donor stripe will drop in distance by 1. In contrast, the recipient stripe will increase in distance by 1. When a dodging operation can be performed on all stripes that are at the minimum array distance, then the overall minimum array distance will be increased. A dodging operation can occur at varying distances depending on the configuration of the array.

Please replace paragraph [45] of the originally filed patent application with the following rewritten paragraph:

A dodging operation can be performed for the second three-storage-unit-failure arrangement by rebuilding the contents of one of the lost elements in stripe 1 in a well-known manner onto one

of the non-failed elements of stripe 3. Figure 6 depicts the array of Figure 5 after performing a dodging operation. Rebuilt data in Figure 6 is underlined. Here, the element of stripe 3 on unit D9 has been donated to stripe 1. Following the dodging operation, all stripes have minimum distance $d = 2$ and, therefore, array 300 has minimum distance $D = 2$. The configuration of the array after the dodging operation can now tolerate one further failure without data being lost.

Please replace paragraph [51] of the originally filed patent application with the following rewritten paragraph:

An external dodging operation is different from a parity-exchange operation, such as disclosed by co-pending Application Serial No. 10/619,649(~~Attorney Docket No. ARC9-2003-0015-US1~~), now U.S. Patent No. 7,281,177 B2 to Hetzler et al., and which is incorporated by reference herein. That is, a dodging operation is performed on a stripe basis, while a parity-exchange operation is performed on a storage unit basis.

Please replace paragraph [54] of the originally filed patent application with the following rewritten paragraph:

Suppose that after any three storage-unit failures, a parity-exchange operation, such as disclosed by co-pending Application Serial No. 10/619,649(~~Attorney Docket No. ARC9-2003-0015-US1~~), now U.S Patent No. 7,281,177 B2 to Hetzler et al., is used to ensure that each array 1001-1003 has one failed storage unit. The results of a parity-exchange operation are depicted, for example, by storage units D1, D9 and D17 being shown having Xs within the blocks of the storage unit. Further suppose that a fourth storage-unit failure occurs subsequently to the parity-exchange operation. A fourth storage-unit failure is depicted, for example, by storage unit D2 in array 1001 being shown having Xs within the blocks of storage unit D2. After the fourth storage-unit failure, arrays 1001, 1002 and 1003 respectively have distances $D = (2, 3, 3)$. It should be understood that another storage unit other than storage unit D2 could fail as the fourth storage-unit failure and a procedure that is similar to the procedure described below would be performed for increasing the effective distance of the storage system.

Please replace paragraph [56] of the originally filed patent application with the following rewritten paragraph:

Figure 11 depicts array system 1000 of Figure 10 after performing an external dodging operation according to the present invention. Rebuilt data in Figure 11 is underlined. Specifically, an element of stripe 3 is selected to be rebuilt onto stripe 4 within storage unit D3. An element of stripe 2 is selected to be rebuilt onto stripe 8 within storage unit D10. Lastly an element of stripe 1 is selected to be rebuilt onto stripe~~step~~ 12 within storage unit D17.

Please replace paragraph [59] of the originally filed patent application with the following rewritten paragraph:

The net result of the external dodging operation is that array system 1000 has minimum distance $D = 3$ after four failures. In contrast, the minimum distance would have been only 2 using only a parity-exchange operation, such as disclosed by co-pending patent application Serial No. 10/619,649(~~Attorney Docket No. ARC9-2003-0015-US1~~), now U.S. Patent No. 7,281,177 B2 to Hetzler et al. Consequently, when an external dodging operation is utilized for array system 1000, five failures are required for array system 1000 to have a minimum distance of $d = 2$. This is the same result for an array system of 24 units that are arranged as four arrays of six units and in which each array uses only a parity-exchange operation as disclosed by co-pending patent application Serial No. 10/619,649(~~Attorney Docket No. ARC9-2003-0015-US1~~) now U.S. Patent No. 7,281,177 B2 to Hetzler et al. Thus, a dodging operation in combination with a parity-exchange operation provides that system reliability is independent of the array configuration.